FIG. 1

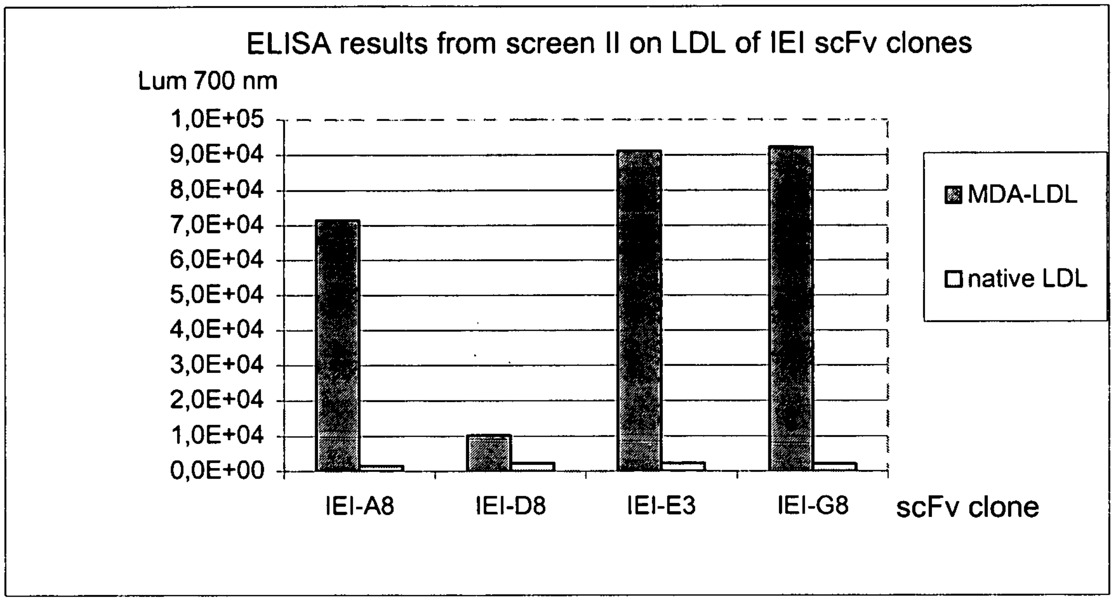


FIG. 1A

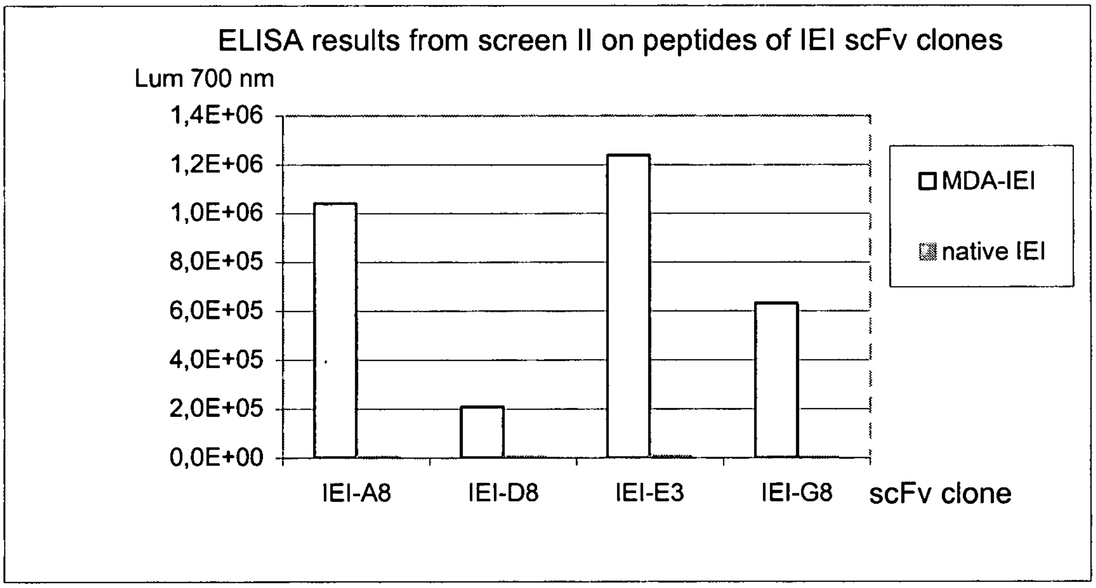


FIG. 1B

FIG. 1 cont'd

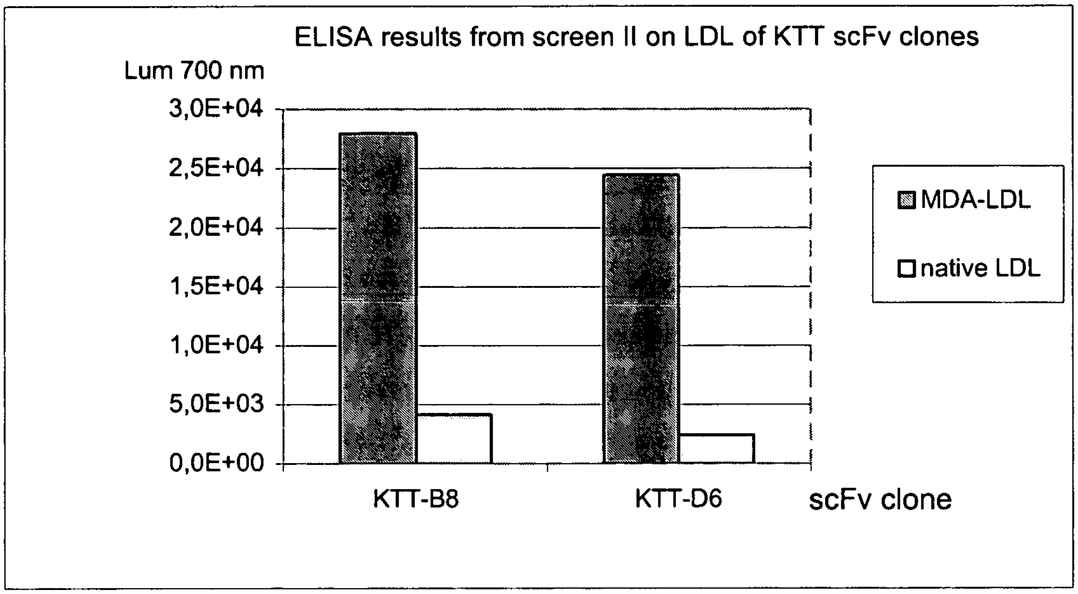


FIG. 1C

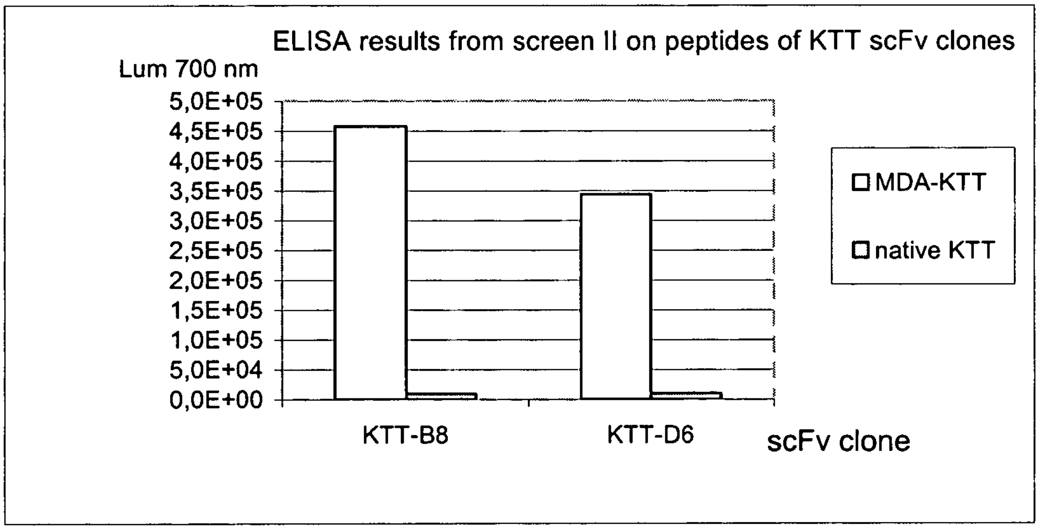


FIG. 1D

FIG. 2

Results from screening III titration of scFv on MDA modified LDL and non-modified native LDL

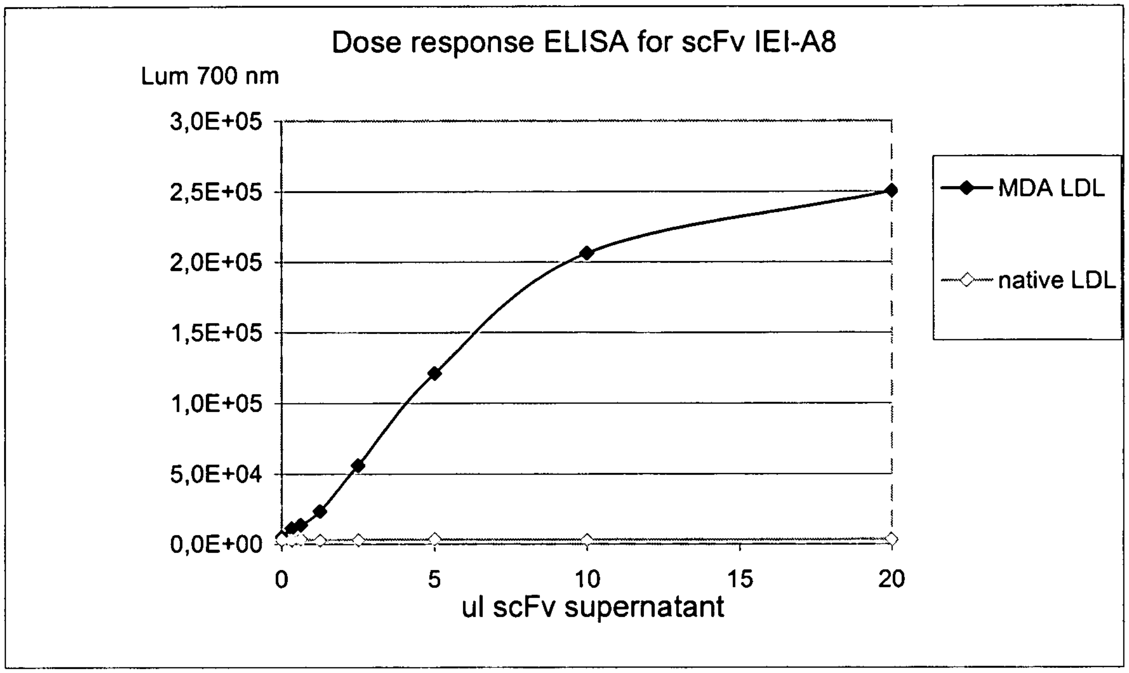


FIG. 2A

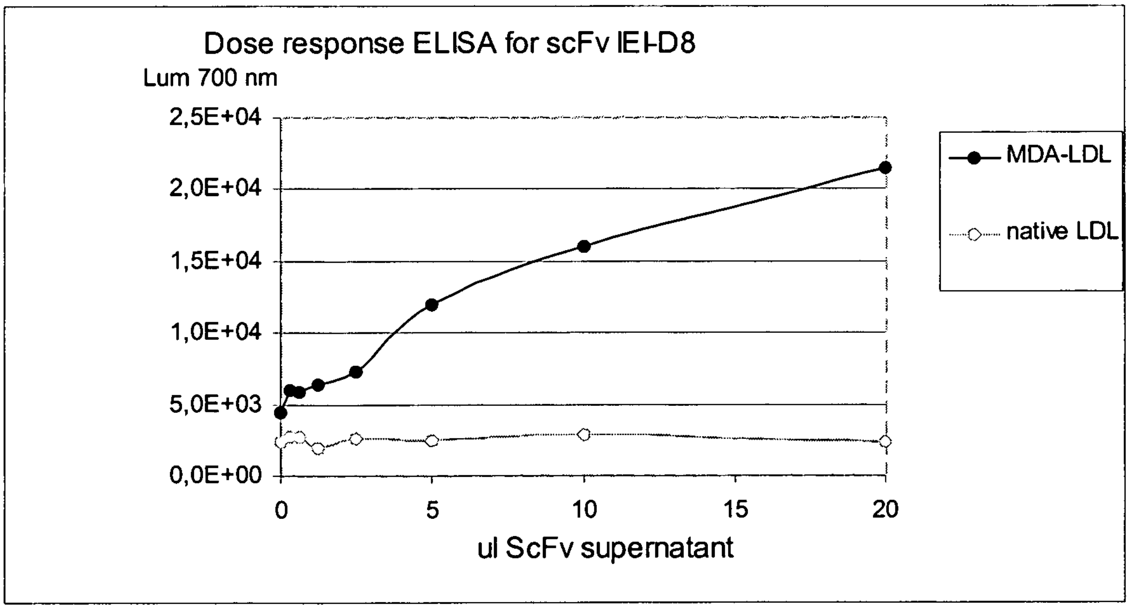


FIG. 2B

FIG. 2 cont'd

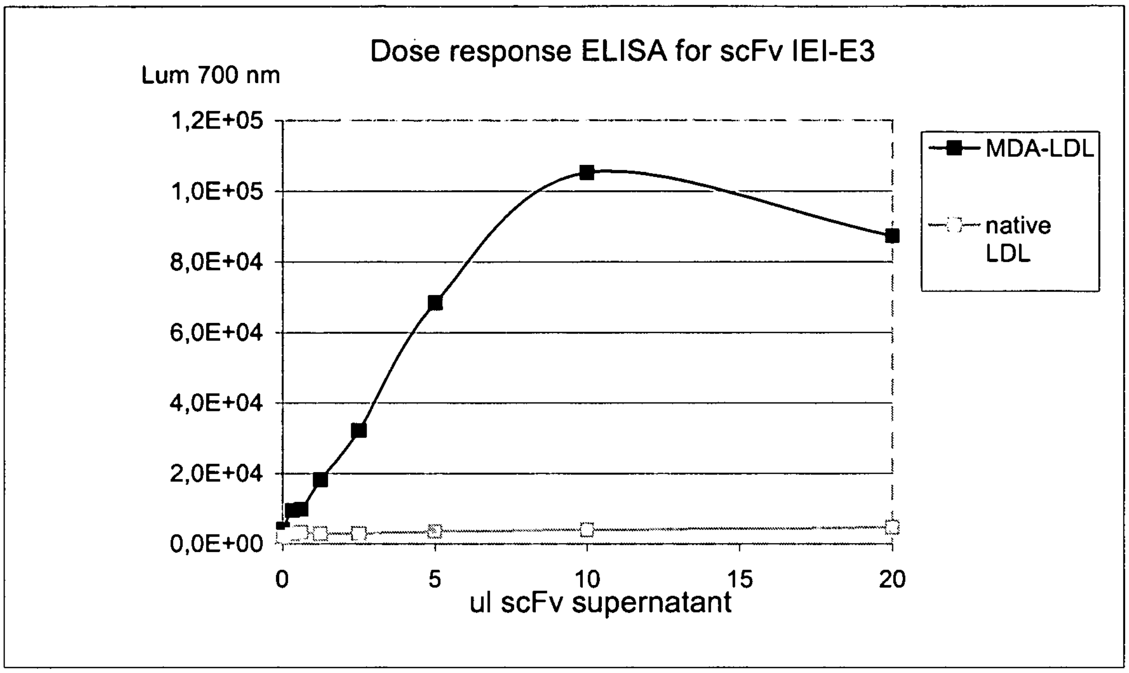


FIG. 2C

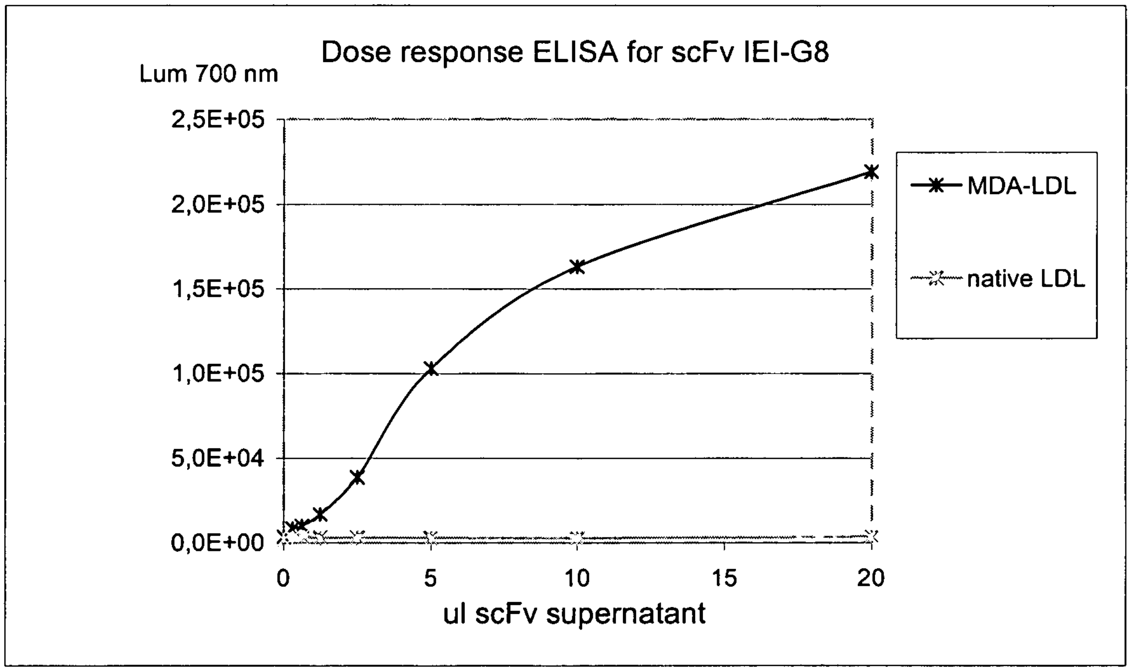


FIG. 2D

FIG. 2 cont'd

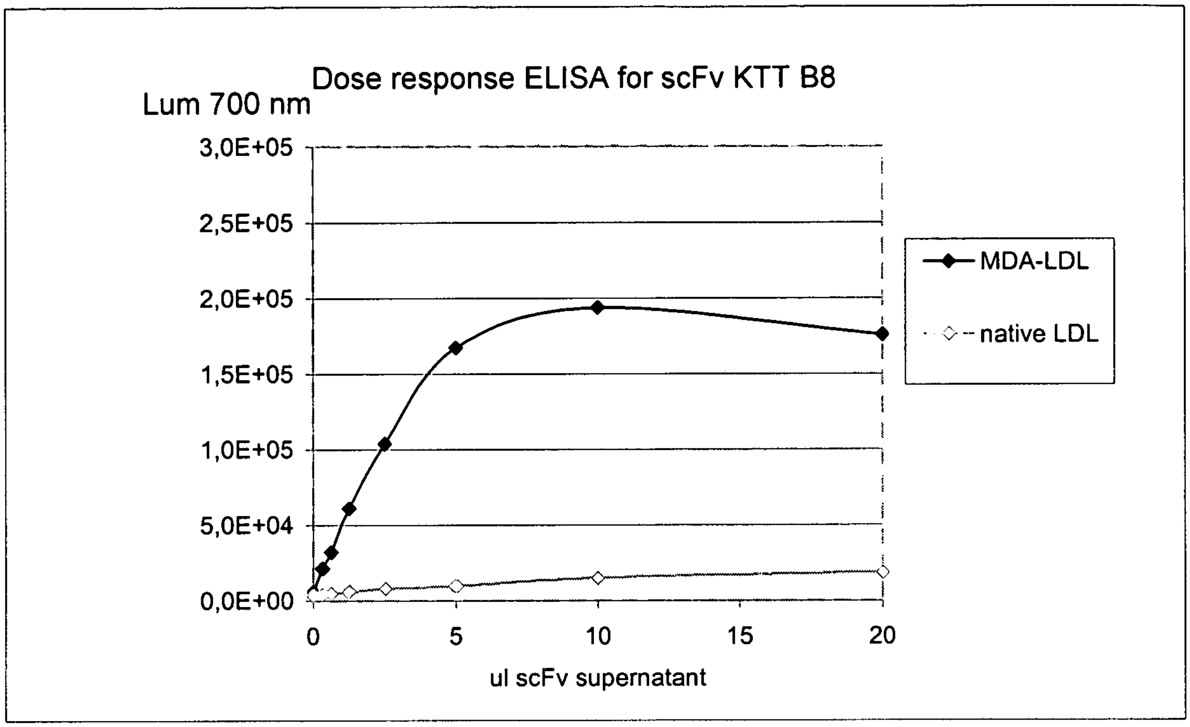


FIG. 2E

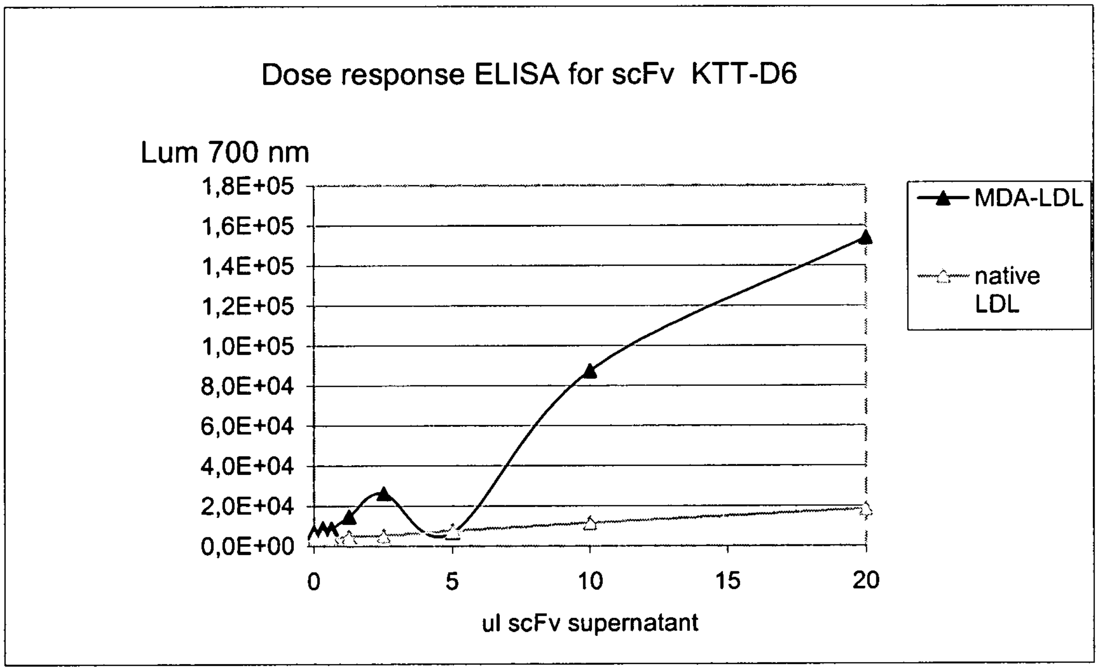


FIG. 2F

FIG. 3

DNA sequences of the variable regions in the six scFv that bind MDA modified ApoB-100 peptides.

IEIA8

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTCAATAACGCCTGGATGAGCTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTACGCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAGTAGGTACTACTACGGACCATCTTTCTACTTTGACTCCTGGGGCCAGGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCTGCTCTGGAAGCAGGTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAACAATCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTCATTGGGTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

IEI-E3

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCGGCCTCTGGATTCACCTTCAGTGACTACTACATGAGCTGGGTCCGCCAGGCTCCCGGGAAGGGGCTGGAGTGGGTATCGGGTGTTAGTTGGAATGGCAGTAGGACGCACTATGCAGACTCTGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGCGGCTAGGTACTCCTACTACTACTACGGTATGGACGTCTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCTGTTCTGGAAGCAGCTCCAACATCGGAAATAATGCTGTAAACTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATGGGAATGATCGGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTCAGACCTGGGGCACTGGCCGGGGGGTATTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

IEI-G8

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTTAGTAGCTATTGGATGAGCTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATCAGTGGTAGTGGTCGTAGGACATACTACGCAGACTCCGTGCAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGATTGGTCTCCTATGGTTCGGGGAGTTTCGGTTTTGACTACTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCTTGTTCTGGAAGCAGCTCCAATATCGGAAGTAATTATGTATCCTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACTACAATCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAGTGGTTGGGTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

IEI-D8

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGTTCCAGGGAAGGGGCTGGAGTGGGTCTCAACTCTTGGTGGTAGTGGTGGTGGTAGCACATACTACGCAGACTCCGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAAGTTAGGGGGGCGATCCCGATATGGGCGGTGGCCCCGCCAATTTGACTACTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCTGCTCTGGAAGCAGCTCCAACATTGGAAATAACTATGTATCCTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAGTCATTGGCTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

KTT-D6

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTCAGTGACTACTACATGAGCTGGATCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATCAGTGGCCGTGGGGGTAGTTCCTACTACGCAGACTCCGTGAGGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGACTTTCCTACAGCTATGGTTACGAGGGGGCCTACTACTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCTGCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTTAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTGCAACCTGGGATGACAGCCTGAATGGTTGGGTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

KTT-B8

Variable heavy region (V_H)

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTTAGCAGCTATGCCATGAGCTGGGTCCGCCAGGCTCCAGGGA
AGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTGGTCGTTTCATTTACTACGCAGACTCAATG
AAGGGCCGCTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCT
GAGAGCCGAGGACACTGCCGTGTATTACTGTACGAGGCTCCGGAGAGGGAGCTACTTCTGGGC
TTTTGATATCTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GTTCTGGAAGCAGCTCCAACATTGGCGGTGAGTCTGTATCCTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTG
GCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTG
ATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTTGGGTGTTCGGCGGAGGAACCAAGCT
GACGGTCCTAGGT

1-B12

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTTAGAACGTATTGGATGACCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCTATTAGCAGTAGCAGTAATTACATATTCTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGACTCAGA
CGGAGCAGCTGGTACGGGGGGTACTGGTTCGACCCCTGGGGCCAAGGTACACTGGTCACC
GTGAGCTCA

Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTCATTGG
GTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-C07

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCT
CCTGTGCAGCCTCTGGATTCACCTTCAGTAGCAACTACATGAGCTGGGTCCGCCAGGCTCC
AGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTACGCA
GACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGC
AAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTAGGCCGGTA
TAACTGGAAGACGGGGCATGCTTTTGATATCTGGGGCCAGGGTACACTGGTCACCGTGAGC
TCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCT
CCTGCTCTGGAAGGACCTACAACATTGGAAATAATTATGTATCGTGGTATCAGCAGCTCCC
AGGAACGGCCCCCAAACTCCTCATCTATGGTAACATCAATCGGCCCTCAGGGGTCCCTGAC
CGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCG
AGGATGAGGCTGATTATTACTGTGCAGCATGGGATGTCAGGCTGAATGGTTGGGTGTTCGG
CGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-C12

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCCGTGACTACTACGTGAGCTGGATCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATTAGTGGTAGTGGGGGTAGGACATACTAC
GCAGACTCCGTGGAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCATGTATTACTGTGCCAGAGTATCC
GCCCTTCGGAGACCCATGACTACAGTAACTACTTACTGGTTCGACCCCTGGGGCCAAGGT
ACACTGGTCACCGTGAGCTCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGGAGCTCCAACATTGGGAATAGTTATGTCTCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGGATGGGATGACACCCTGCGTGCTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-G10

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCCGCTATTAGTGGTAGTGGTAACACATACTATGCA
GACTCCGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTG
CAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGCCTCCCAC
CGTATATTAGGTTATGCTTTTGATATCTGGGGCCAGGGTACACTGGTCACCGTGAGCTCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCTTGTTCTGGAAGCCGCTCCAACATCGGGAGAAATGCTGTTAGTTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGCTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGGCAGCCTGAATGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCC

Clone: 2-D03

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATTAGTGTTGGTGGACATAGGACATATTAT
GCAGATTCCGTGAAGGGCCGGTCCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCACGGATACGG
GTGGGTCCGTCCGGCGGGGCCTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTGAGC
TCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCAT
CTCCTGCTCTGGAAGCAACACCAACATTGGGAAGAACTATGTATCTTGGTATCAGCAGC
TCCCAGGAACGGCCCCCAAACTCCTCATCTATGCTAATAGCAATCGGCCCTCAGGGGTC
CCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCT
CCGGTCCGAGGATGAGGCTGATTATTACTGTGCGTCATGGGATGCCAGCCTGAATGGTT
GGGTATTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 2-F07

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATCCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGGCTCACA
AATATTTTGACTGGTTATTATACCTCAGGATATGCTTTTGATATCTGGGGCCAAGGTACA
CTGGTCACCGTGAGCTCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCACCTCCAACATTGGGAAGAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGCCAGCCTCAGTGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 2-F09

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAGTTCTTGGATGAGTTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTAGGG
AACTACGGTTTCTACCACTACATGGACGTCTGGGGCCAAGGTACACTGGTCACCGTGAGC
TCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCTTGTTCTGGAGGCAGCTCAAACATCGGAAAAAGAGGTGTAAATTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGAAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCTACATGGGATTACAGCCTCAATGCTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 4-A02

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTTAGTAGCTATTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAATTAAA
CGGTTACGATTCGGCTGGACCCCTTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTG
AGCTCA

Variable light region (V_L)

CAGTCTGTTCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGTTCTGGAAGCAGCTCCAACATCGGAAATAATGGTGTAAACTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAACAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGCGTGGTTGGCTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone. 4-C03

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAAT
AGCAAAAAGTGGTATGAGGGCTACTTCTTTGACTACTGGGGCCAGGGTACACTGGTCACC
GTGAGCTCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGTCTGAGTGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 4-D04

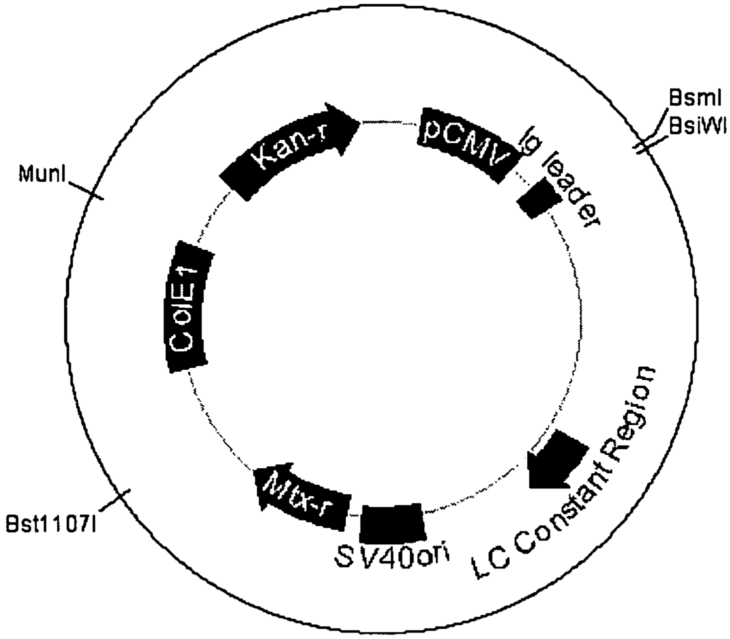
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTACTAGTAGTAATTACATATACTACGCAGACTCAGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAAGAAGTATAGCAGTGGCTGGTACTCGAATTATGCTTTTGATATCTGGGGCCAAGGTACACTGGTCACCGTGAGCTCA

Variable light region (V_L)

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCTGCTCTGGAAGCAGCTCCAGCATTGGGAATAATTTTGTATCCTGGTATCAGCAGCTCCCAGGAACGGCCCCCAAACTCCTCATCTATGACAATAATAAGCGACCCTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTTGGGTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

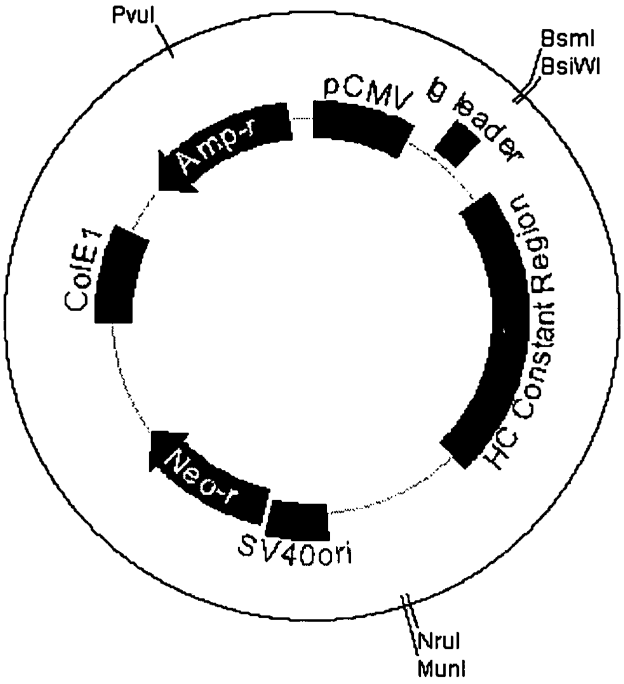
FIG. 4



Light Chain
Vector

FIG. 4A

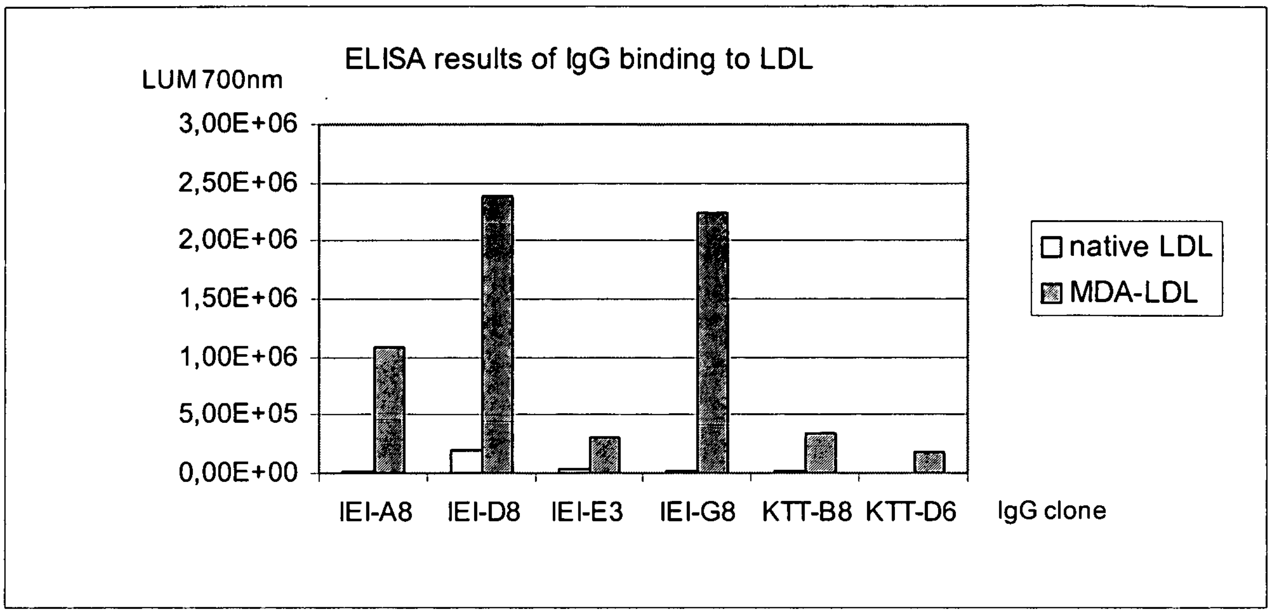
FIG. 4 cont'd



Heavy Chain vector

FIG. 4B

FIG. 5



This graph shows the result from 25 ng purified IgG detected with rabbit-anti-Human IgG-HRP (DAKO P214) and luminescence at 700nm. The plate was coated with 0.5 μg LDL/well.

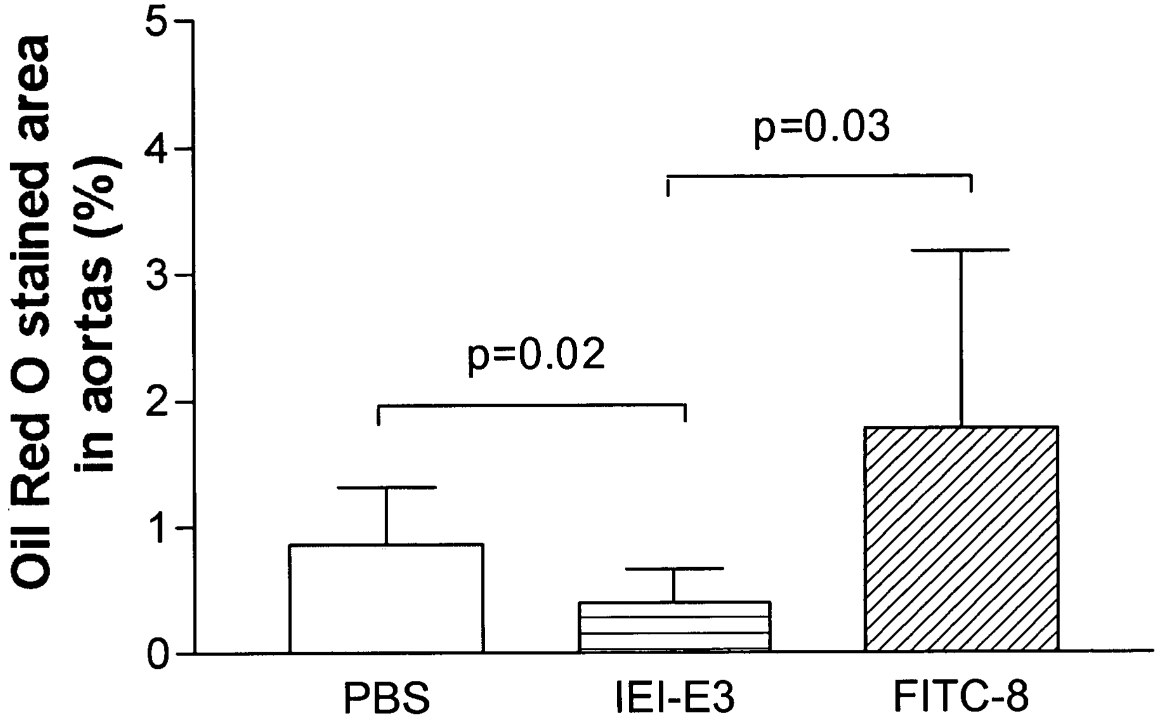

Oil Red O stained area in aortas (%)
5
4
3
2
1
0
p=0.03
p=0.02
PBS
IEI-E3
FITC-8

FIG. 6

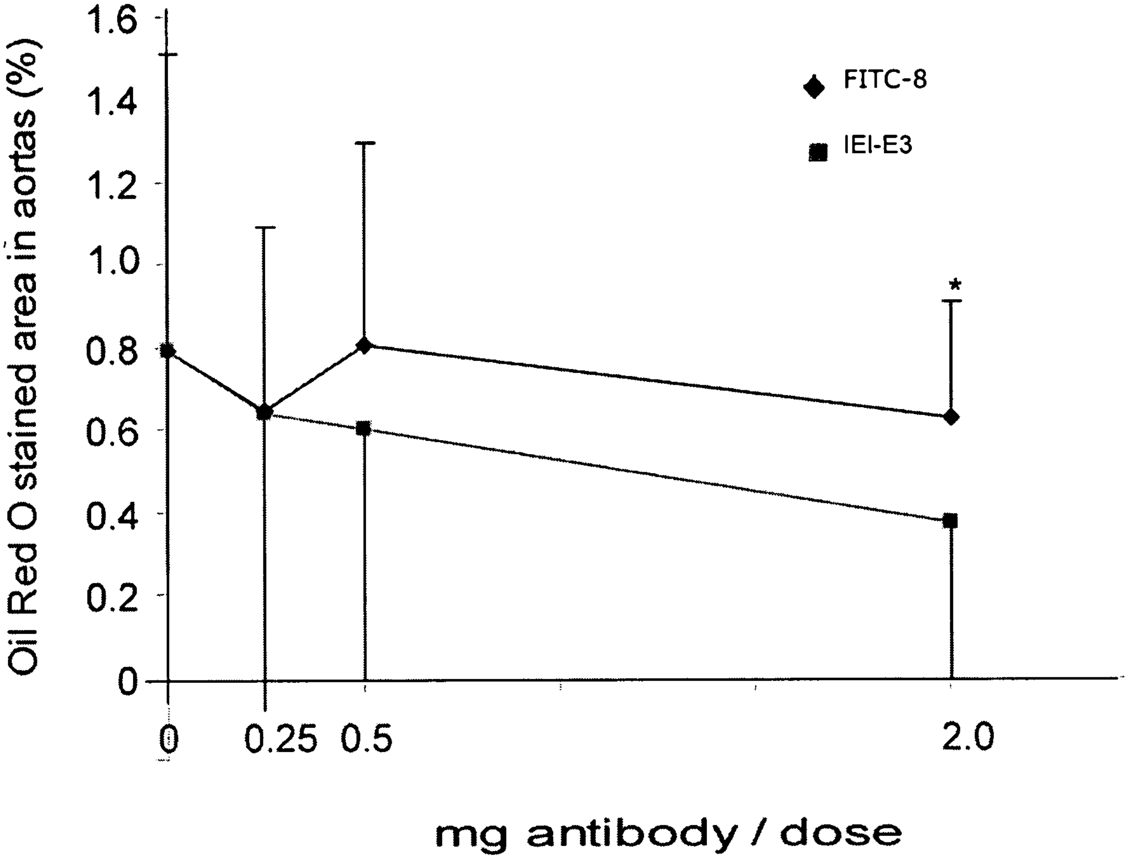

Oil Red O stained area in aortas (%)
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0
◆ FITC-8
■ IEI-E3
*
0
0.25
0.5
2.0
mg antibody / dose

FIG. 7

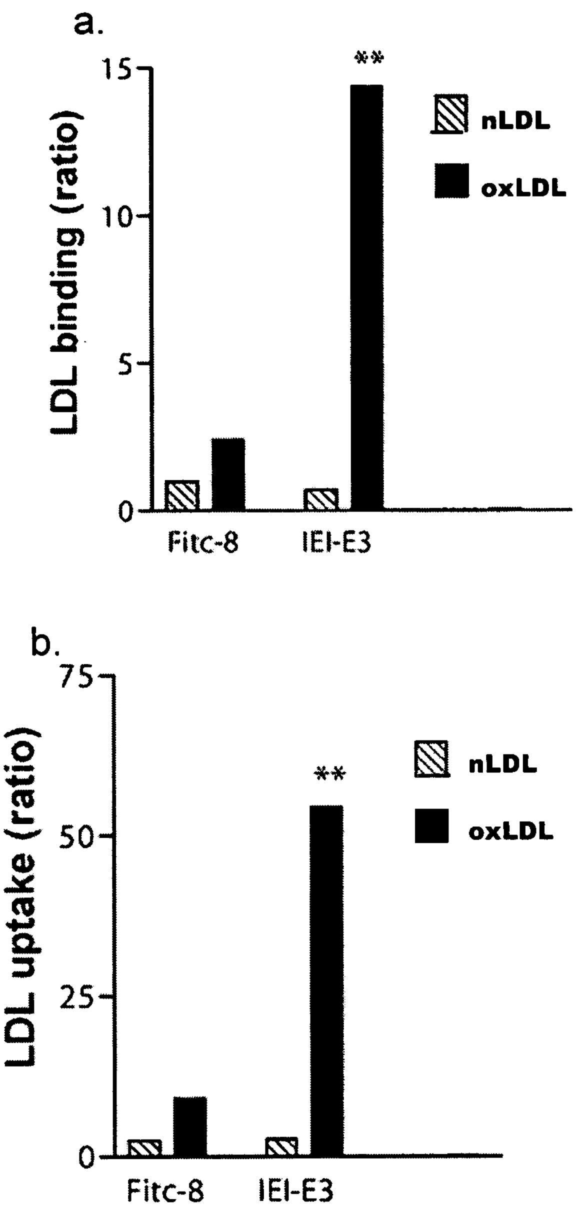
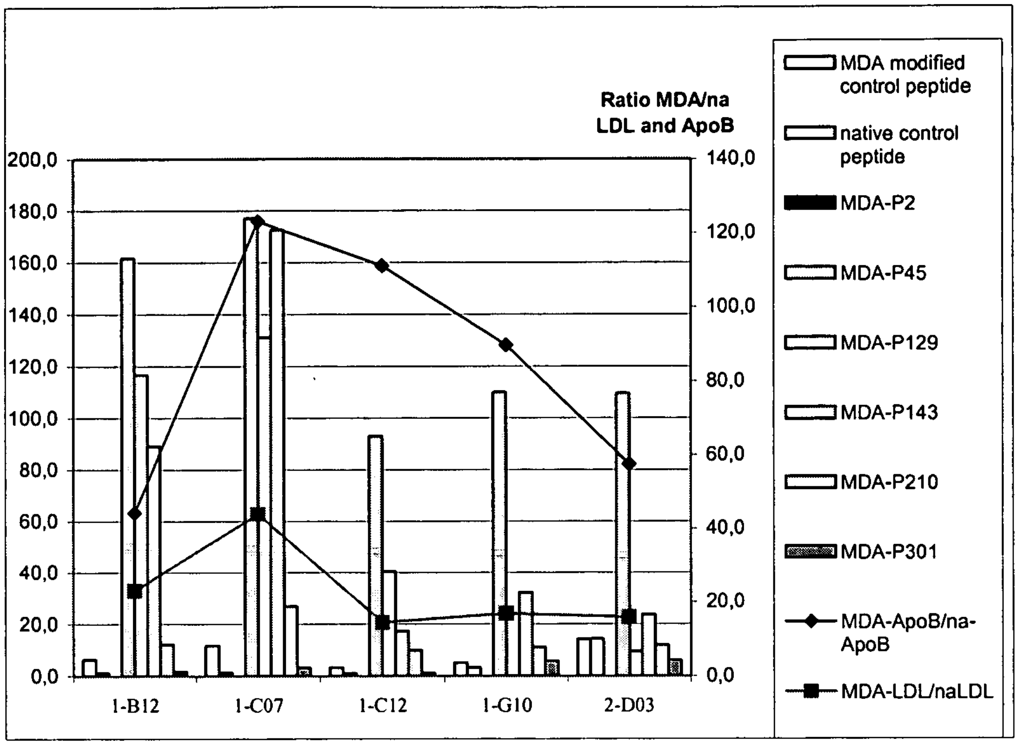
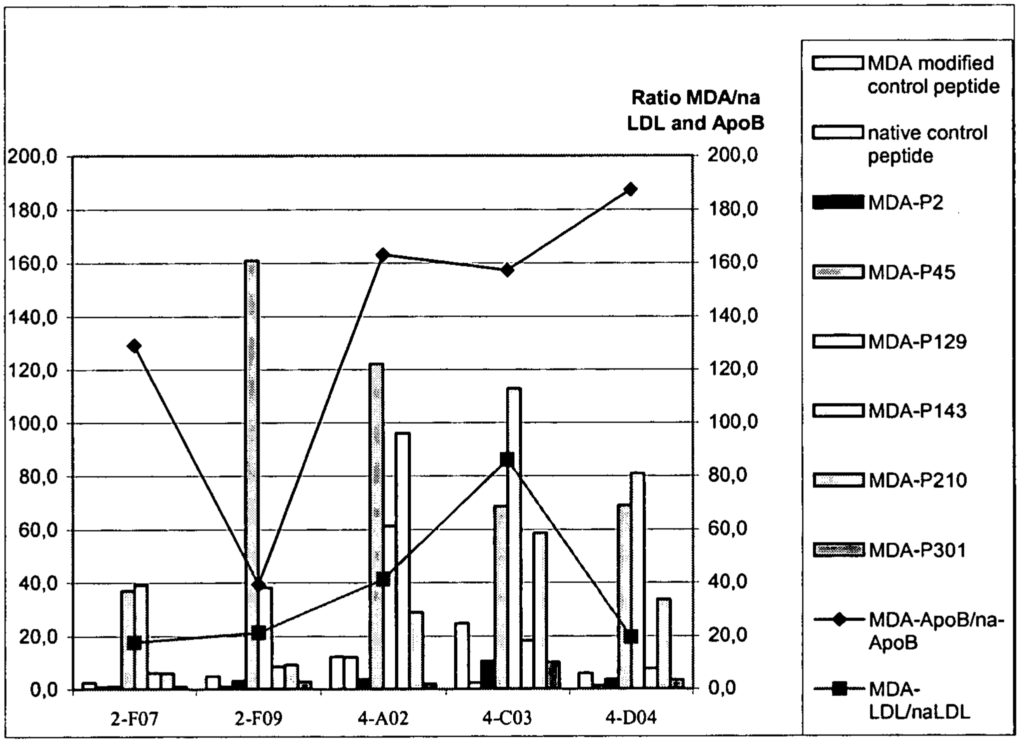

a.
15
10
5
0
LDL binding (ratio)
**
▨ nLDL
■ oxLDL
Fitc-8
IEI-E3
b.
75
50
25
0
LDL uptake (ratio)
**
▨ nLDL
■ oxLDL
Fitc-8
IEI-E3

FIG. 8


Ratio MDA/na LDL and ApoB
200,0
180,0
160,0
140,0
120,0
100,0
80,0
60,0
40,0
20,0
0,0
140,0
120,0
100,0
80,0
60,0
40,0
20,0
0,0
1-B12
1-C07
1-C12
1-G10
2-D03
MDA modified control peptide
native control peptide
MDA-P2
MDA-P45
MDA-P129
MDA-P143
MDA-P210
MDA-P301
MDA-ApoB/na-ApoB
MDA-LDL/naLDL


Ratio MDA/na LDL and ApoB
200,0
180,0
160,0
140,0
120,0
100,0
80,0
60,0
40,0
20,0
0,0
200,0
180,0
160,0
140,0
120,0
100,0
80,0
60,0
40,0
20,0
0,0
2-F07
2-F09
4-A02
4-C03
4-D04
MDA modified control peptide
native control peptide
MDA-P2
MDA-P45
MDA-P129
MDA-P143
MDA-P210
MDA-P301
MDA-ApoB/na-ApoB
MDA-LDL/naLDL

5 FIG. 9

SEQ. ID. NO: 1

IEIA8

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTCAATAACGCCTGGATGAGCTGGGTCCGCCAGGCTCCAGGGA
AGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTACGCAGACTCAGT
GAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGC
CTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAGTAGGTACTACTACGGACCAT
CTTTCTACTTTGACTCCTGGGGCCAGGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 2

IEIA8

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GCTCTGGAAGCAGGTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATGGTAACAACAATCGGCCCTCAGGGGTCCCTGACCGATTCTCTG
GCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTG
ATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTCATTGGGTGTTCGGCGGAGGAACCAA
GCTGACGGTCCTAGGT

SEQ. ID. NO: 3

IEI-E3

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCGGCCTCTGGATTCACCTTCAGTGACTACTACATGAGCTGGGTCCGCCAGGCTCCCGGGA
AGGGGCTGGAGTGGGTATCGGGTGTTAGTTGGAATGGCAGTAGGACGCACTATGCAGACTCTG
TGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAG
CCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGCGGCTAGGTACTCCTACTACTAC
TACGGTATGGACGTCTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 4

IEI-E3

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GTTCTGGAAGCAGCTCCAACATCGGAAATAATGCTGTAAACTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATGGGAATGATCGGCGGCCCTCAGGGGTCCCTGACCGATTCTCT
GGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCT
GATTATTACTGTCAGACCTGGGGCACTGGCCGGGGGGTATTCGGCGGAGGAACCAAGCTGACG
GTCCTAGGT

SEQ. ID. NO: 5

IEI-G8

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTTAGTAGCTATTGGATGAGCTGGGTCCGCCAGGCTCCAGGGA
AGGGGCTGGAGTGGGTCTCAAGTATCAGTGGTAGTGGTCGTAGGACATACTACGCAGACTCCGT
GCAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGC
CTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGATTGGTCTCCTATGGTTCGGGGAGTT
TCGGTTTTGACTACTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 6

IEI-G8

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCTT
GTTCTGGAAGCAGCTCCAATATCGGAAGTAATTATGTATCCTGGTATCAGCAGCTCCCAGGAACG
GCCCCCAAACTCCTCATCTATGGTAACTACAATCGGCCCTCAGGGGTCCCTGACCGATTCTCTGG
CTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTGAT
TATTACTGTGCAGCATGGGATGACAGCCTGAGTGGTTGGGTGTTCGGCGGAGGAACCAAGCTG
ACGGTCCTAGGT

SEQ. ID. NO: 7

IEI-D8

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGTTCCAGGGA
AGGGGCTGGAGTGGGTCTCAACTCTTGGTGGTAGTGGTGGTGGTAGCACATACTACGCAGACTC
CGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAAC
AGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAAGTTAGGGGGGCGATCCCGATAT
GGGCGGTGGCCCCGCCAATTTGACTACTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 8

IEI-D8

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GCTCTGGAAGCAGCTCCAACATTGGAAATAACTATGTATCCTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTG
GCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTG
ATTATTACTGTGCAGCATGGGATGACAGCCTGAGTCATTGGCTGTTCGGCGGAGGAACCAAGCT
GACGGTCCTAGGT

SEQ. ID. NO: 9

KTT-D6

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTCAGTGACTACTACATGAGCTGGATCCGCCAGGCTCCAGGGA
AGGGGCTGGAGTGGGTCTCAAGTATCAGTGGCCGTGGGGGTAGTTCCTACTACGCAGACTCCG
TGAGGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAG
CCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGACTTTCCTACAGCTATGGTTACGAG
GGGGCCTACTACTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 10

KTT-D6

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCT
GGCTCCAAGTCTGGCACCTTAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCT
GATTATTACTGTGCAACCTGGGATGACAGCCTGAATGGTTGGGTGTTCGGCGGAGGAACCAAGC
TGACGGTCCTAGGT

SEQ. ID. NO: 11

KTT-B8

Variable heavy region (V_H)
GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCTCC
TGTGCAGCCTCTGGATTCACCTTTAGCAGCTATGCCATGAGCTGGGTCCGCCAGGCTCCAGGGA
AGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTGGTCGTTTCATTTACTACGCAGACTCAATG
AAGGGCCGCTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACAGCCT
GAGAGCCGAGGACACTGCCGTGTATTACTGTACGAGGCTCCGGAGAGGGAGCTACTTCTGGGC
TTTTGATATCTGGGGCCAAGGTACACTGGTCACCGTGAGCAGC

SEQ. ID. NO: 12

KTT-B8

Variable light region (V_L)
CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCTCCT
GTTCTGGAAGCAGCTCCAACATTGGCGGTGAGTCTGTATCCTGGTATCAGCAGCTCCCAGGAAC
GGCCCCCAAACTCCTCATCTATAGTAATAATCAGCGGCCCTCAGGGGTCCCTGACCGATTCTCTG
GCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCGAGGATGAGGCTG
ATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTTGGGTGTTCGGCGGAGGAACCAAGCT
GACGGTCCTAGGT

SEQ. ID. NO: 13

5'VH: 5'-GGT*GTGCATTC*CGAGGTGCAGCTGTTGGAG

SEQ. ID. NO: 14

3'VH: 5'-GA*CGTACG***ACTCACCT**GAGCTCACGGTGACCAG

SEQ. ID. NO: 15

5'VL: 5'-GGT*GTGCATTC*CCAGTCTGTGCTGACTCAG

SEQ. ID. NO: 16

3'VL: 5'-GA*CGTACG*TTCT**ACTCACCT**AGGACCGTCAGCTT

SEQ. ID. NO: 17

5'-ATGGGTGACAATGACATC

SEQ. ID. NO: 18

5'-AAGCTTGCTAGCGTACG

1-B12
SEQ. ID. NO: 19
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTTAGAACGTATTGGATGACCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCTATTAGCAGTAGCAGTAATTACATATTCTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGACTCAGA
CGGAGCAGCTGGTACGGGGGGTACTGGTTCGACCCCTGGGGCCAAGGTACACTGGTCACC
GTGAGCTCA

SEQ. ID. NO: 20
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTCATTGG
GTGTTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-C07
SEQ. ID. NO: 21

Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTCT
CCTGTGCAGCCTCTGGATTCACCTTCAGTAGCAACTACATGAGCTGGGTCCGCCAGGCTCC
AGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTACGCA
GACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGC
AAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTAGGCCGGTA
TAACTGGAAGACGGGGCATGCTTTTGATATCTGGGGCCAGGGTACACTGGTCACCGTGAGC
TCA

SEQ. ID. NO: 22
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATCT
CCTGCTCTGGAAGGACCTACAACATTGGAAATAATTATGTATCGTGGTATCAGCAGCTCCC
AGGAACGGCCCCCAAACTCCTCATCTATGGTAACATCAATCGGCCCTCAGGGGTCCCTGAC
CGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGGTCCG
AGGATGAGGCTGATTATTACTGTGCAGCATGGGATGTCAGGCTGAATGGTTGGGTGTTCGG
CGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-C12
SEQ. ID. NO: 23
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCCGTGACTACTACGTGAGCTGGATCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATTAGTGGTAGTGGGGGTAGGACATACTAC
GCAGACTCCGTGGAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCATGTATTACTGTGCCAGAGTATCC
GCCCTTCGGAGACCCATGACTACAGTAACTACTTACTGGTTCGACCCCTGGGGCCAAGGT
ACACTGGTCACCGTGAGCTCA

SEQ. ID. NO: 24
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGGAGCTCCAACATTGGGAATAGTTATGTCTCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATAGGAATAATCAGCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGGATGGGATGACACCCTGCGTGCTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 1-G10
SEQ. ID. NO: 25
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCCGCTATTAGTGGTAGTGGTAACACATACTATGCA
GACTCCGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTG
CAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGCCTCCCAC

CGTATATTAGGTTATGCTTTTGATATCTGGGGCCAGGGTACACTGGTCACCGTGAGCTCA

SEQ. ID. NO: 26
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCTTGTTCTGGAAGCCGCTCCAACATCGGGAGAAATGCTGTTAGTTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGCTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGGCAGCCTGAATGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCC

Clone: 2-D03
SEQ. ID. NO: 27
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCAAGTATTAGTGTTGGTGGACATAGGACATATTAT
GCAGATTCCGTGAAGGGCCGGTCCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCACGGATACGG
GTGGGTCCGTCCGGCGGGGCCTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTGAGC
TCA

SEQ. ID. NO: 28
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCAT
CTCCTGCTCTGGAAGCAACACCAACATTGGGAAGAACTATGTATCTTGGTATCAGCAGC
TCCCAGGAACGGCCCCCAAACTCCTCATCTATGCTAATAGCAATCGGCCCTCAGGGGTC
CCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCT
CCGGTCCGAGGATGAGGCTGATTATTACTGTGCGTCATGGGATGCCAGCCTGAATGGTT
GGGTATTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 2-F07
SEQ. ID. NO: 29
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATCCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGGCTCACA
AATATTTTGACTGGTTATTATACCTCAGGATATGCTTTTGATATCTGGGGCCAAGGTACA
CTGGTCACCGTGAGCTCA

SEQ. ID. NO: 30
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCACCTCCAACATTGGGAAGAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGCCAGCCTCAGTGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 2-F09
SEQ. ID. NO: 31
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAGTTCTTGGATGAGTTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTAGGG
AACTACGGTTTCTACCACTACATGGACGTCTGGGGCCAAGGTACACTGGTCACCGTGAGC
TCA

SEQ. ID. NO: 32
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCTTGTTCTGGAGGCAGCTCAAACATCGGAAAAAGAGGTGTAAATTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGAAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCTACATGGGATTACAGCCTCAATGCTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 4-A02
SEQ. ID. NO: 33
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTTAGTAGCTATTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAATTAAA
CGGTTACGATTCGGCTGGACCCCTTTTGACTACTGGGGCCAGGGTACACTGGTCACCGTG
AGCTCA

SEQ. ID. NO: 34
Variable light (V_L) region

CAGTCTGTTCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGTTCTGGAAGCAGCTCCAACATCGGAAATAATGGTGTAAACTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAACAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGCGTGGTTGGCTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone. 4-C03
SEQ. ID. NO: 35
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTAGTAGTAGTAGTTACATATACTAC
GCAGACTCAGTGAAGGGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAAT
AGCAAAAAGTGGTATGAGGGCTACTTCTTTGACTACTGGGGCCAGGGTACACTGGTCACC
GTGAGCTCA

SEQ. ID. NO: 36
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCAGCTCCAACATTGGGAATAATTATGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGGTAACAGCAATCGGCCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGTCTGAGTGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT

Clone: 4-D04
SEQ. ID. NO: 37
Variable heavy (V_H) region

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCTTGGTACAGCCTGGGGGGTCCCTGAGACTC
TCCTGTGCAGCCTCTGGATTCACCTTCAGTAACGCCTGGATGAGCTGGGTCCGCCAGGCT
CCAGGGAAGGGGCTGGAGTGGGTCTCATCCATTAGTACTAGTAGTAATTACATATACTAC
GCAGACTCAGTGAAGGGCCGGTTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTAT
CTGCAAATGAACAGCCTGAGAGCCGAGGACACTGCCGTGTATTACTGTGCGAGAGTCAAG
AAGTATAGCAGTGGCTGGTACTCGAATTATGCTTTTGATATCTGGGGCCAAGGTACACTG
GTCACCGTGAGCTCA

SEQ. ID. NO: 38
Variable light (V_L) region

CAGTCTGTGCTGACTCAGCCACCCTCAGCGTCTGGGACCCCCGGGCAGAGGGTCACCATC
TCCTGCTCTGGAAGCAGCTCCAGCATTGGGAATAATTTTGTATCCTGGTATCAGCAGCTC
CCAGGAACGGCCCCCAAACTCCTCATCTATGACAATAATAAGCGACCCTCAGGGGTCCCT
GACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCCTGGCCATCAGTGGGCTCCGG
TCCGAGGATGAGGCTGATTATTACTGTGCAGCATGGGATGACAGCCTGAATGGTTGGGTG
TTCGGCGGAGGAACCAAGCTGACGGTCCTAGGT